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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/005,006	01/09/98	KANNO	ASA-695

IM52/0313
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EXAMINER
NGUYEN, N

ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 03/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/005,006

Applicant(s)

KANNO et al

Examiner

N. M. NGUYEN

Group Art Unit

1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on December 24, 2000.
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 24-31 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 24-31 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Art Unit: 1754

DETAILED ACTION

The request filed on December 21, 2000 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/005,006 is acceptable and a CPA has been established. An action on the CPA follows.

The proposed drawing correction has been approved by the examiner.

Claims 24-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 24, the limitation "showing a decomposition activity to carry out a reaction with steam and oxygen or a reaction gas comprising steam and oxygen" is indefinite. It is unclear what is "a reaction with steam and oxygen", i.e. what is reacted with steam and oxygen? Also, it is unclear if there is any difference between "steam and oxygen" and "a reaction gas comprising steam and oxygen".

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

Art Unit: 1754

has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-26, 28, 31 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rossin et al (6,069,291).

Rossin '291 discloses a process for the decomposition of perfluoroalkanes to HF and CO₂ (note claim 1). The process comprises contacting the perfluoroalkanes with aluminum oxide. The perfluoroalkane is contacted with aluminum oxide at a temperature ranging from about 400°C to about 1000°C, or preferably from about 550°C to 800°C (note column 2, lines 55-65). This range is well within the claimed range. The decomposition temperature of C₂F₆ is 750°C (note Example 1. This value is well within the claimed range.

Rossin '291 discloses that perfluoroalkanes are CF₄, C₂F₆, etc. (Note column 1, lines 25-28).

The aluminum oxide is stabilized, for example, with an element selected from the group consisting of barium, calcium, nickel among others (note sentence bridging columns 2-3). The

Art Unit: 1754

catalyst is formed by slurring pseudoboehmite aluminum oxide (which is encompassed by the claimed "boehmite") in an aqueous or non-aqueous liquid. Once mixed, one or more additional components may be added to the slurry. These additional components may be added as solid metal salts, such as nitrates, acetates, oxalates, chlorides, halides, etc., or may be added as small metal or metal oxide particles. Once mixed, the slurry may be aged, if desired, or used directly in the manufacture of beads, particles, spheres, etc., or used to coat an inert ceramic substrate, such as a monolith. Following manufacture or coating of the inert ceramic substrate, the resulting material must be calcined at a temperature between 350 and 900°C (note column 4, lines 36-55). The calcination would convert the additional components into oxide forms if they are not already were.

Rossin '291 further discloses that the process is also applicable to the injection of gaseous or liquid phase perfluoroalkanes into a gas stream, including an oxidizing agent, such as air for example, and water (which would become steam at reaction temperature) (note column 5, lines 28-37 and column 3, lines 8-11).

In Rossin '291, since Ni is specifically disclosed as one of the additional components that can be added to the aluminum oxide catalyst, thus, the disclosure of Rossin is considered as having "sufficient specificity" to constitute an anticipation under the 102 statute (see MPEP 2131.03).

Art Unit: 1754

Alternatively, it would have been obvious to one skilled in the art to select any combination among the specifically disclosed compounds, i.e. nickel-aluminum oxide, Merck & Co. Inc. v. Biocraft Laboratory Inc. 10 USPQ 1846.

Claims 24-28, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rossin '291.

Rossin '291 disclose a process as stated in the above rejection.

Rossin discloses that the catalyst composition comprises aluminum oxide with the addition of between 0.01 and 50% of one or more elements selected from the group consisting of nickel among others (note paragraph bridging columns 3-4). Rossin does not specifically disclose the atomic ratio.

However, it would have been obvious to one of ordinary skill in the art to optimize the atomic ratio of aluminum to nickel based on the disclosed range stated above to obtain a catalyst best suited for transforming perfluoroalkanes.

Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rossin '291 as applied to claims 24-28, 31 above, and further in view of Rosenbaum (5,460,792).

The difference not yet discussed is Rossin '792 does not disclose the addition of zinc oxide.

Art Unit: 1754

Rosenbaum '792 discloses a process for the destruction of hydrocarbon compounds which uses a catalyst comprising a carbonaceous pyrolyzed resinous polymer. The catalyst is doped with a compound selected from the group consisting of metal oxides, metal oxyhalides or precursor metal salts wherein the metal of the metal oxides, metal oxyhalides and precursor metal salts is selected from the group consisting of Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Co, Zn, Pd, Nb, Zr, Mo and mixtures thereof (note claim 1). Rosenbaum '792 further discloses that the process can be used for the destruction of organic compounds which refer to either halogenated organic or hydrocarbon compounds or mixture thereof (note column 4, lines 15-18). Exemplified compounds which can be destroyed are C_2Cl_4 , CCl_4 (note column 6, lines 6 and 9), Rosenbaum '792 teaches that the halide can be any halide, while chlorine and bromine are being preferred (note column 7, lines 28-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further include zinc in the catalyst of Rossin '792 because Rosenbaum '792 suggests that zinc, just as nickel, would promote the destruction of the halogenated hydrocarbon.

Applicant's arguments with respect to claims 24-31 have been considered but are moot in view of the new ground(s) of rejection.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Art Unit: 1754

Any inquiry concerning this communication should be directed to Ngoc-Yen Nguyen at telephone number (703) 308-2536.

The fax phone number for this Group is (703) 305-3599 (for OFFICIAL faxes).
UNOFFICIAL fax can be sent to (703) 305-6078.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

N. M. Nguyen
March 11, 2001


N. M. Nguyen
Primary Examiner
Art Unit 1754